

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

In the Claims:

Claim 1. (Currently Amended)

A medical location system device comprising:
a medical device having a body;
a position sensor at a portion of the body, the position sensor having a core made of a Wiegand effect material; and a winding circumferentially positioned around the core, the position sensor providing signals that determine temperature at the position sensor and location information of the portion of the body of the medical device; and
a signal processor, which is coupled to receive the signals from the position sensor, the signal processor determining and is adapted to determine a temperature of at the position sensor and to determine, responsively to the signals and the temperature, location information coordinates of the portion of the body of the medical device based on the signals received from the position sensor.

Claim 2. (Currently Amended)

The medical location system device according to Claim 1, wherein the position sensor is also used to determine location information comprises position coordinates.

Claim 3. (Currently Amended)

The medical location system device according to Claim 2, wherein the position sensor is used to determine location information further comprises orientation coordinates.

- Claim 4. (Currently Amended) The medical location system ~~device~~ according to Claim 1, wherein the signal processor ~~is adapted to~~ determines the location information ~~coordinates~~ with accuracy of \leq 1 mm at temperatures greater than 75°C.
- Claim 5. (Currently Amended) The medical location system ~~device~~ according to Claim 4, wherein the signal processor ~~is adapted to~~ determines the location information ~~coordinates~~ with accuracy of \leq 1 mm at temperatures at approximately 80°C.
- Claim 6. (Currently Amended) The medical location system ~~device~~ according to Claim 1, wherein the core has an outer diameter less than approximately 0.3mm.
- Claim 7. (Currently Amended) The medical location system ~~device~~ according to Claim 6, wherein the core has an outer diameter of about 0.25mm.
- Claim 8. (Currently Amended) The medical location system ~~device~~ according to Claim 7, wherein the winding is attached to the core.
- Claim 9. (Currently Amended) The medical location system ~~device~~ according to Claim 8, wherein a combination of the core and the wire winding has an outer diameter less than approximately 0.5mm.
- Claim 10. (Currently Amended) The medical location system ~~device~~ according to Claim 9, wherein the combination of the core and the winding have an outer diameter of about 0.4 mm.

- Claim 11. (Currently Amended) The medical location system device according to Claim 10, wherein the material of the core comprises cobalt.
- Claim 12. (Currently Amended) The medical location system device according to Claim 11, wherein the material of the core further comprises vanadium.
- Claim 13. (Currently Amended) The medical location system device according to Claim 12, wherein the material of the core further comprises iron.
- Claim 14. (Currently Amended) The medical location system device according to Claim 13, wherein the material of the core comprises approximately 20%-80% cobalt.
- Claim 15. (Currently Amended) The medical location system device according to Claim 13, wherein the material of the core comprises approximately 2%-20% vanadium.
- Claim 16. (Currently Amended) The medical location system device according to Claim 13, wherein the material of the core comprises approximately 25%-50% iron.
- Claim 17. (Currently Amended) The medical location system device according to Claim 13, wherein the material of the core comprises approximately 52% cobalt, 10% vanadium and 38% iron.
- Claim 18. (Currently Amended) The medical location system device according to Claim 8, wherein the winding is made of copper.

Claim 19. (Currently Amended) The medical location system device according to Claim 3, wherein the position sensor has an accuracy within approximately 0.5 mm.

Claim 20. (Currently Amended) A medical location system device comprising:
a medical device having a body;
a position sensor at a portion of the body, the position sensor having a core made of a high permeable material, the material being a bi-stable magnetic material that produces ~~a magnetic field that switches polarity and~~ causes a substantially uniform voltage pulse upon an application of an external field, the position sensor providing signals that determine location information ~~coordinates~~ of the portion of the body and temperature at the position sensor; and
a signal processor, which is coupled to receive the signals from the position sensor, the signal processor determining and is adapted to determine a temperature at ~~of~~ the position sensor and to determine, responsively to the signals and the temperature location information ~~coordinates~~ of the portion of the body of the medical device based on the signals received from the position sensor.

Claim 21. (Currently Amended) The medical location system device according to Claim 20, further comprising a winding circumferentially positioned around the core.

Claim 22. (Currently Amended) The medical location system device according to Claim 20, wherein the ~~position sensor is used to determine~~ location information comprises position coordinates.

- Claim 23. (Currently Amended) The medical location system device according to Claim 22, wherein the ~~position sensor is also used to determine~~ location information further comprises orientation coordinates.
- Claim 24. (Currently Amended) The medical location system device according to Claim 20, wherein the signal processor ~~is adapted to~~ determines the location ~~coordinates~~ information with accuracy of ≤ 1 mm at temperatures greater than 75°C.
- Claim 25. (Currently Amended) The medical location system device according to Claim 24, wherein the signal processor ~~is adapted to~~ determines the location ~~coordinates~~ information with accuracy of ≤ 1 mm at temperatures at approximately 80°C.
- Claim 26. (Currently Amended) The medical location system device according to Claim 20, wherein the core has an outer diameter less than approximately 0.3mm.
- Claim 27. (Currently Amended) The medical location system device according to Claim 26, wherein the core has an outer diameter of about 0.25mm.
- Claim 28. (Currently Amended) The medical location system device according to Claim 27, wherein the position sensor comprises a winding, wherein the winding is attached to the core.

- Claim 29. (Currently Amended) The medical location system ~~device~~ according to Claim 28, wherein a combination of the core and the winding has an outer diameter less than approximately 0.5mm.
- Claim 30. (Currently Amended) The medical location system ~~device~~ according to Claim 29, wherein the combination of the core and the winding have an outer diameter of about 0.4 mm.
- Claim 31. (Currently Amended) The medical location system ~~device~~ according to Claim 30, wherein the material of the core comprises cobalt.
- Claim 32. (Currently Amended) The medical location system ~~device~~ according to Claim 31, wherein the material of the core further comprises vanadium.
- Claim 33. (Currently Amended) The medical location system ~~device~~ according to Claim 32, wherein the material of the core further comprises iron.
- Claim 34. (Currently Amended) The medical location system ~~device~~ according to Claim 33, wherein the material of the core comprises approximately 20%-80% cobalt.
- Claim 35. (Currently Amended) The medical location system ~~device~~ according to Claim 33, wherein the material of the core comprises approximately 2%-20% vanadium.
- Claim 36. (Currently Amended) The medical location system ~~device~~ according to Claim 33, wherein the material of the core comprises approximately 25%-50% iron.

- Claim 37. (Currently Amended) The medical location system ~~device~~ according to Claim 33, wherein the material of the core comprises approximately 52% cobalt, 10% vanadium and 38% iron.
- Claim 38. (Currently Amended) The medical location system ~~device~~ according to Claim 28, wherein the winding is made of copper.
- Claim 39. (Currently Amended) The medical location system ~~device~~ according to Claim 23, wherein the position sensor has an accuracy within approximately 0.5 mm.
- Claim 40. (Currently Amended) The medical location system ~~device~~ according to Claim 20, wherein the material of the core comprises a copper, nickel and iron alloy (CuNiFe).
- Claim 41. (Currently Amended) The medical location system ~~device~~ according to Claim 20, wherein the material of the core comprises an iron, chrome and cobalt alloy.
- Claim 42. (Currently Amended) The medical location system ~~device~~ according to Claim 1, wherein the signal processor ~~is adapted to~~ senses a variation in an electrical characteristic of the winding, and ~~to~~ determines the temperature of the position sensor responsively to the variation.
- Claim 43. (Currently Amended) The medical location system ~~device~~ according to Claim 42, wherein the electrical characteristic comprises a resistance.
- Claim 44. (Currently Amended) The medical location system ~~device~~ according to Claim 20, wherein the signal processor ~~is adapted to~~ senses a

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variation in an electrical characteristic of the position sensor, and to determine the temperature of the position sensor responsively to the variation.